

# ELECTRONIC DATABASES IN LEGAL RESEARCH: BEYOND LEXIS AND WESTLAW

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Just twenty-five years ago computer-assisted legal research was little more than a dream when Professor John Harty, of the University of Pittsburgh's Health Law Center, demonstrated an automated system for retrieving state statutes at a meeting of the American Bar Association.<sup>1</sup> In the late 1960's, stimulated by Harty's success, members of the Ohio Bar Association and researchers at Queens University, Canada, began work virtually simultaneously on the precursors of the LEXIS and WESTLAW systems. Now that LEXIS and WESTLAW are firmly established as important and sometimes indispensable legal research tools, other potentially useful electronic databases are attracting the attention of legal researchers.

A survey of the electronic landscape reveals an overwhelming number of databases. Currently, over three thousand databases are available commercially in the United States.<sup>2</sup> Thousands of additional databases have been created by the federal and state governments.<sup>3</sup> The growth is staggering: starting with four hundred databases in 1979, the number of commercially available databases has increased by nearly fifty percent every year for the past six years.<sup>4</sup>

Many of these databases contain the full-text of primary and secondary legal research materials or indexes. Some replicate familiar print

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1. For a brief history of computer-assisted legal research see Harrington, *A Brief History of Computer-Assisted Legal Research*, 77 L. LIBR. J. 543 (1984-85).

2. Dr. Carlos Cuadra reports 3,169 commercially available databases are available through 486 online services, as of July, 1986. CUADRA ASSOCIATES, 7 DIRECTORY OF ONLINE DATABASES preface (Supp. 1986).

3. Over 3,000 federal databases and files are reported to be online. See S. ZAROZNY & M. HORNER, *THE FEDERAL DATA BASE FINDER* (1984). Many of these are potentially useful to legal researchers but are not available outside the government. See AD HOC COMM. ON DEPOSITORY LIBRARY ACCESS TO FEDERAL AUTOMATED DATA BASES, JOINT COMM. ON PRINTING, 98TH CONG., 2D SESS., *PROVISION OF FEDERAL GOVERNMENT PUBLICATIONS IN ELECTRONIC FORMAT TO DEPOSITORY LIBRARIES* 1-9 (Comm. Print 1984). Numerous state government databases have also been created, with state legislative information systems being of primary interest to legal researchers. See Kauffman, *Automated Legislative Information Systems: A New Tool for Legal Research*, 76 L. LIBR. J. 234 (1983).

4. CUADRA ASSOCIATES, *supra* note 2, at preface.

publications produced by well-established legal publishers, while other databases offer information unavailable in print format. For instance, Canadian statutes and case law, indexes to legal periodicals, legal newsletters, federal and state bill tracking systems, and abstracts of Congressional debates are all available online. Other databases offer easy access to potentially important law-related information. For example, comprehensive biographical information, medical newsletters, journals, texts and indexes, statistical indexes, government publication indexes, business-related journals, reports and indexes, general newspapers, newsletters, and indexes are also all available online.

Generally, databases are made available to end users through an intermediary organization known as an online service.<sup>5</sup> LEXIS, WESTLAW, VU/TEXT, and DIALOG are all examples of online services. In many instances, the online services produce some or even most of the databases they offer end users; additional databases produced by other organizations may also be made available, sometimes exclusively, on a particular online service. For example, most of the databases available on WESTLAW are produced by West Publishing Company, but others, such as Shepard's, are produced by different organizations and made available through WESTLAW on a non-exclusive basis. Thus, the Shepard's database is also available on LEXIS.

Typically an end user enters into a contract directly with an online service to gain access to any and all of the databases offered through that service. The online service provides the end user with training and support and provides the database producers with computer hardware and special application programs, sometimes called searchware. A database available through different services generally will be searchable in a manner peculiar to the application program for each separate service through which it is offered. Like databases, the number of online services has increased substantially over the past six years from fewer than sixty in 1979 to well over four hundred in 1986.<sup>6</sup>

With more than three thousand databases available through some four hundred online services, potential users must decide which services they desire. This question turns on several considerations, including the number of potentially useful databases available through each service, the availability of those or similar databases through other services, the ease of using a particular service, and cost. This article assumes readers are already familiar with the LEXIS and WESTLAW services and fo-

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5. Some of the major online services are described and surveyed in Saffady, *Survey, Availability and Cost of Online Search Services*, 21 LIBR. TECH. REP. 9 (1985).

6. CUADRA ASSOCIATES, *supra* note 2, at preface.

cuses on other major online services offering databases of interest to legal researchers.

## I. NEXIS

In 1980, Mead Data Central expanded its database offerings beyond legal materials when it began a new online service called NEXIS. This service uses the same searchware and a similar pricing structure as Mead's LEXIS service, and law firms remain the biggest users of this service.<sup>7</sup> The databases available through NEXIS range from the full-text of major news, business, financial, and medical sources to bibliographic databases and indexes. The NEXIS databases will assist legal researchers in such diverse activities as locating trial court decisions, finding expert witnesses, uncovering corporate information, ascertaining appropriate medical or hospital procedures, or finding citations to scientific literature.

Some two hundred fifty databases are currently available on NEXIS.<sup>8</sup> Although these databases are not produced by Mead, many are available exclusively through NEXIS. The databases in NEXIS are organized into seven groups, inaccurately called services. The five major groups of databases are: NEXIS, MEDIS, EXCHANGE, NAARS, and REFSRV. Additionally, two minor groups of databases are available on NEXIS: APOLIT, four Associated Press files pertaining to candidates and political issues, and TODAY, a *New York Times* daily news service.

### A. *The NEXIS Databases*

NEXIS is the oldest and largest group of databases offered through the NEXIS service. Unfortunately, the name of this database group is the same as the name used for the online service as a whole, which results in some confusion. The subject focus of the NEXIS-named database group is general, business, and scientific news, and it includes the full-text of eighteen newspapers, fifty-four magazines, fifty-three newsletters, and sixteen wire services. All databases (called files) may be searched together, individually, by group type, or by five separate

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7. Telephone interview with John Johnson, Manager of Educational Programs, Mead Data Central (May 14, 1986).

8. A description of each NEXIS database, including producer, currency, coverage, and searchable segments, is available in MEAD DATA CENTRAL, INC., GUIDE TO NEXIS AND RELATED SERVICES (1986). A recent survey of the NEXIS databases, with search tips, appears in Cascio, *NEXIS for Academic Law Librarians*, 6 LEGAL REFERENCE SERVICES Q., Spring/Summer 1986, at 47.

subject sub-groups: business, finance, trade and technology, government, and news.

### 1. *Newspapers*

For sheer number, competing online services like VU/TEXT<sup>9</sup> offer a broader coverage of newspapers; however, some of the major newspapers published in the United States are among those available on NEXIS, including *The New York Times*, *The Christian Science Monitor*, and *The Washington Post*.<sup>10</sup> These newspapers are all available online within one or two days of their publication dates, and the databases cover five or more years. Legal researchers may find these databases useful for a variety of law-related and factual research needs, such as identifying public figures, changing venue, and tracking legislation. Additionally, two national legal newspapers, *The National Law Journal* and *Legal Times*, are included in this database grouping. Unfortunately, the timeliness and coverage of the legal newspapers is not as good as the major newspapers mentioned above. Other newspaper files available on NEXIS range from *Computerworld* and *World Paper*<sup>11</sup> to the *MacNeil/Lehrer News Hour*.

### 2. *Magazines*

The magazine files also contain publications of interest to legal researchers. For instance, included in the magazine grouping are the Congressional Quarterly's *Weekly Report* and *Editorial Research Reports*. Curiously, this grouping also includes *Life* and *People* without the photographs. In addition, publications specific to an industry are included. For example, a publication like *Issues in Bank Regulation* would interest legal researchers working in that particular area.

### 3. *Newsletters*

Newsletters are often expensive to acquire, difficult to locate, and bib-

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9. For a description of VU/TEXT, see *infra* note 18 and accompanying text. Another online service offering full-text access to a number of U.S. newspapers is DataTimes. The 12-plus newspapers available on DataTimes include several major city papers, for example, the Chicago Sun Times, the Houston Chronicle, the San Francisco Chronicle, and the Seattle Times, as well as about six state capital newspapers. Access rates vary from \$75 to \$100 per hour. For further information, contact DataTimes, 818 Northwest 63rd, Oklahoma City, OK 73116 (Phone 405-843-7323).

10. The Los Angeles Times was recently added to NEXIS, as well, retrospective to January, 1985. See *Mead Loads LA Times*, Information Today, Sept. 1986, at 16, col. 4.

11. World Paper, published by World Times, Inc. in Boston, is a newspaper supplement that features "fresh perspectives from around the world on matters of global concern." MEAD DATA CENTRAL, INC., GUIDE TO NEXIS AND RELATED SERVICES (1985).

liographically troublesome.<sup>12</sup> New titles appear and disappear regularly, publishers are sometimes elusive, and prices are frequently high. Nevertheless, useful information may be found in these materials. Again, competing online services like NEWSNET contain the full-text of more newsletters than NEXIS. There are, however, over fifty newsletters available on NEXIS. Most of these are industry-specific publications, like *Coal Week*, *Genetic Technology News*, and *Space Business News*, but several will interest a broader spectrum of legal researchers, including: *Update/The American States*, which provides monthly coverage of legislation and regulation affecting location and operation of industry; *Daily Report for Executives*, a reporter of legal and regulatory developments that could affect corporations; *The Expert and the Law*, an irregular publication geared toward litigation experts; and *Securities Week*, with reports on securities law and developments.

#### 4. Wire Services

Wire services sometimes include information that is more current or detailed than that which is immediately available elsewhere. NEXIS includes the major U.S. and international services, such as United Press International and The Associated Press, as well as important foreign services, such as Xinhua (China), Reuters (Britain), and Kyodo (Japan). These services generally are updated daily and made available online within two working days of publication. Coverage extends as far back as 1977 for some, e.g., The Associated Press.

#### B. The MEDIS Databases

The full-text of current medical information is now available on the newest group of NEXIS databases, called MEDIS. These databases were first placed online in early 1985, with the introduction of the GENMED library files. Four other sub-groupings of databases were subsequently added to MEDIS, including a hospital administration library (ADMIN), a pharmacology library (PHARM), an oncology library (CANCER), and the *Medline* databases (MEDLINE).

The GENMED library includes the full-text of six current medical textbooks, forty-two journals, and fifteen newsletters. Users may search any combination of these at one time. These databases are also available in other relevant MEDIS libraries. For example, the *Journal of the National Cancer Institute* appears in both the GENMED and CAN-

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12. The typically frequent changes of titles, volume numbering, format, and publisher information make newsletters "bibliographically troublesome;" that is, newsletters are often difficult to locate and keep track of in a library.

CER libraries. The other MEDIS libraries also each contain additional databases not available in GENMED.

Although the scope of medical topics covered on MEDIS is broad, the range of publishers remains limited; many of the MEDIS databases currently are produced by either the American Medical Association or American Health Consultants. Important publications, such as the *Journal of the American Medical Association* are, therefore, included in MEDIS, but equally important publications, such as the *New England Journal of Medicine*, are not. Nevertheless, access to the full-text of medical information on MEDIS expands the scope of legal research. Moreover, the recent addition of the well-established bibliographic database, *Medline*, supplements other full-text sources available in MEDIS.

Legal researchers interested in a broad range of medical topics will find the MEDIS databases useful. Some uses suggested by Mead include ascertaining the appropriate standard of care, identifying potential expert witnesses, and gaining background information on a medical topic.<sup>13</sup>

### C. *The EXCHANGE Databases*

The EXCHANGE databases contain the full-text of financial and economic information about U.S. and foreign corporations, industries, and economies. Primarily, these databases consist of research reports prepared by brokerage houses, investment banks, and research institutes, but they also include abstracts and full-text of corporate filings with the Securities and Exchange Commission ("SEC").

The EXCHANGE databases are sub-divided into two groups: the VIEWPT library and the ECONO library. VIEWPT is the largest subgroup and includes all EXCHANGE databases directly pertaining to corporations and industries, i.e., company and industry research reports and SEC filings. The ECONO databases include information on the economies of the United States and one hundred foreign countries.

Legal researchers working in the area of securities or those with pockets full of money to invest will find some of the EXCHANGE databases particularly useful. For example, the well-established Disclosure database is included in the VIEWPT library. This database includes abstracts of business and financial information for over 10,500 publicly held companies, extracted from the annual and periodic re-

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13. I have already referred researchers interested in the more limited American Hospital Association database, HEALTHLAWYER, to MEDIS.

ports filed with the Securities and Exchange Commission. Additionally, the full-text of these SEC reports is available for a smaller group of corporations in several other databases in the VIEWPT library.

#### D. *The NAARS Databases*

Three databases are available on NAARS: annual reports, proxy reports, and accounting literature. The annual report databases contain the audited portion of annual reports issued by over four thousand public corporations for the past five years. These reports are not indexed anywhere else. The proxy statements, issued by corporations for annual stockholders meetings, are available in two separate files: *Proxy I* covers 1977 through 1980, while *Proxy II* includes statements issued to the present. Finally, the accounting literature database includes authoritative current and superseded literature issued by such organizations as the Government Accounting Standards Board ("GASB"), the Securities and Exchange Commission ("SEC"), the Financial Accounting Standards Board ("FASB"), and the American Institute of Certified Public Accountants ("AICPA").

NAARS is a popular group of databases with the accounting community, and Mead makes no secret of the fact that all of the "Big Eight" accounting firms subscribe. As a matter of fact, these databases are made available on NEXIS through the cooperation of the American Institute of Certified Public Accountants.

Legal researchers will find the NAARS databases useful for such purposes as checking the annual reports issued by particular publicly traded corporations or determining accepted accounting practices and standards as set out in the authoritative literature.

#### E. *The REFSRV Databases*

As with LEXIS, the NEXIS service has offered its subscribers full-text databases rather than limiting them to bibliographic references or abstracts. Additionally, most of the NEXIS databases have not been available through competing online services. With the introduction of REFSRV in late 1984, NEXIS changed this policy and began competing head-on with such well-established online services as Dialog and BRS.

REFSRV is a grouping of bibliographic databases and structured information files produced primarily by indexing and abstracting services. Many of these databases are available through competitors, but some are available exclusively through NEXIS. For instance, *ABI Inform* (a highly regarded business periodical abstracting database) is available on

REFSRV, as well as on at least ten competing online services.<sup>14</sup> Likewise, the indexing and abstracting database produced National Technical Information Service ("NTIS") is available through many other services besides NEXIS. On the other hand, the structured information files on REFSRV tend to be available exclusively through the NEXIS service. For instance, *The Almanac of American Politics*, produced by *The National Journal*, is available exclusively on NEXIS.

Currently, there are fourteen bibliographic databases and ten structured information files included in REFSRV, far fewer than the 250-plus databases in DIALOG. To assist users, many of these databases have corresponding "how to" files, called profiles. Users are permitted free access to profiles to determine the potential usefulness of particular databases on REFSRV.

The REFSRV databases cover a broad range of information likely to be useful to legal researchers. For example, *Billcast* is a unique and interesting database useful for predicting the statistical likelihood of a U.S. House or Senate bill being enacted into law; it has a ninety-four percent accuracy rate for Congressional sessions from 1977 through 1984.<sup>15</sup> Another example is *Expert*, an online version of *The Forensic Services Directory*, which lists approximately five thousand experts in over 6,500 subject areas; however, those listed provide the information and pay for the listing. And finally, the *Hazard* database covers regulatory, health, and precautionary information on over 78,000 industrial chemicals (approximately ninety percent of the potentially hazardous chemicals used in interstate commerce).

#### F. Access Charges

Compared to other online services, NEXIS usage charges are complicated.<sup>16</sup> This is partially due to Mead's policy of encouraging users to

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14. The availability of databases on competing services can be ascertained by checking listings in CUADRA ASSOCIATES, *supra* note 2.

15. The Billcast database was also made available on WESTLAW in late 1986. Nevertheless, some D.C. area law librarians have told me they prefer to call Committee contacts directly.

16. Mead recently announced flat-rate billing for government agency users of NEXIS, responding to requests for more predictability in the NEXIS price structure. NEXIS users with government contracts will be charged a flat rate of \$155 per hour under this new price agreement, with no additional per search charges or search modification charges. Telephone interview with Mary Finnigan, law school sales representative, Mead Data Central (Sept. 23, 1986). Many of us believe the former pricing structure, still applicable to all other NEXIS users, is far less costly to researchers.

Access rates and pricing schemes are frequently difficult to pin down for the services discussed throughout this article. The information provided should give the reader an idea of the pricing range and differential between services, but a service should be con-



read online. Nevertheless, NEXIS charges have been simplified somewhat over the past few years by eliminating search unit charges.

Currently, up to four separate items may figure into the cost of accessing the NEXIS databases: a monthly subscription rate, an hourly access rate, a search cost, and a charge for each search modification. The basic monthly subscription rate is \$50.00, which includes the use of dedicated equipment; it is not reduced or waived if the customer uses his own equipment. Law schools are not charged a monthly subscription fee to access NEXIS. As with LEXIS, the hourly access rate for NEXIS is \$28.00, including telecommunications charges for Meadnet. Those outside of the Meadnet service area are charged \$32.00 per hour access rates. Additionally, each search query entered for a NEXIS database is assessed a charge. These initial search charges vary from \$7.00 to \$16.00 during peak hours, 7:30 a.m. to 7:30 p.m., Monday through Friday; generally, single NEXIS databases are billed at \$7.00 per search, while groups of databases are billed at \$15.00 to \$16.00 per search. All off-peak users are billed at fifty percent of the regular per search charge. Finally, in addition to the basic hourly rate charge and the initial search charge, users are charged \$3.00 for each search modification or \$1.50 during off-peak hours. Users who go back and change an initial search query are charged for another search.

## II. VU/TEXT

While Mead Data Central expanded its database offerings beyond legal materials, in 1980, by beginning a parallel online service to LEXIS, Mead's major rival for the legal market took a different approach. In mid-1985, WESTLAW subscribers were offered easy access to the separately-owned VU/TEXT online service, with its full-text of general newspapers and related databases. The VU/TEXT service offers subscribers databases similar to some of those available on NEXIS.<sup>17</sup>

VU/TEXT is owned by the Knight-Ridder newspaper chain and bills itself as the world's largest newspaper databank. Its coverage includes the full-text of at least twenty-five newspapers (more than NEXIS), three wire services, and about a half dozen related databases, such as *ABI Inform* and *Disclosure II*.<sup>18</sup> It also serves as a gateway to the Q L

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tacted directly for the most current information. The prices supplied were current as of December, 1986.

17. DataTimes also offers full-text coverage of newspaper databases. See *supra* note 9.

18. Descriptions of the VU/TEXT databases were compiled from brochures and other information sent by the VU/TEXT service. For more information contact VU/

SYSTEMS service in Canada and uses the same Q L searchware on which the WESTLAW service is based.<sup>19</sup> The latter feature makes the VU/TEXT system easier to use for those users already familiar with WESTLAW, but there are still many differences.

Many of the newspapers in VU/TEXT are local or secondary papers, such as the *Akron Beacon Journal* or the *Los Angeles Daily News*, but also included are a few major news sources, such as the *Chicago Tribune* (available exclusively on VU/TEXT) and the *Washington Post*, which is also available on NEXIS. Most of these are updated daily and have retrospective coverage from one to five years.

Legal researchers may find the inclusion of newspapers from state capitals of particular interest. Currently, at least seven state capital newspapers are available on VU/TEXT, including those for California, Florida, Kentucky, Massachusetts, Ohio, Pennsylvania, and Virginia.<sup>20</sup> These databases would be especially useful in tracking the activities of state governmental bodies.

Most of the non-newspaper databases on VU/TEXT are also available on competing online services. For instance, two of the three wire services, *Associated Press* and *P R Newswire*, are also available on NEXIS; however, *Mediawire*, a less timely newswire service, is available exclusively on VU/TEXT. Likewise, *ABI Inform*, *Predicasts' Prompt* with citations and abstracts to worldwide business literature, *Disclosure II*, and the ubiquitous *Academic American Encyclopedia*, are all available on several other online services. Nevertheless, the additional materials help round out the information available on the VU/TEXT service. Additionally, the *Wallstreet Transcript* (weekly reports by security analysts, brokerage houses, etc.) and VU/QUOTE (twenty minute delayed stock quotes and stock market summary data) are available exclusively on VU/TEXT and parallel similar databases available on other services.

As with WESTLAW, the cost for accessing the VU/TEXT databases is straightforward. No monthly subscription rate is charged, and all WESTLAW subscribers are given a VU/TEXT password. Hourly access rates for the newspaper databases vary from \$90.00 to \$100.00; an additional \$8.50 (Uninet) to \$9.00 (Telenet) charge is assessed for telecommunications. Access rates are \$15.00 per hour less for those willing to guarantee \$60.00 per month usage.

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TEXT Information Services, 1211 Chestnut St., Philadelphia, PA 19107 (Phone 800-258-8080).

19. See *infra* notes 21-23 and accompanying text.

20. DataTimes also includes about six state capital newspapers. See *supra* note 9.

### III. Q L SYSTEMS

Q L SYSTEMS is a major Canadian online service providing access to over one hundred databases. It is available in the United States through VU/TEXT, but a separate password is necessary to access the Q L databases. The Q L service, which stands for Quick Law, was developed at Queens University in the late 1960's for accessing Canadian legal materials, at nearly the same time LEXIS was being developed in the United States; in fact, the original WESTLAW service used the Q L software.<sup>21</sup> The Q L service now includes non-legal databases as well as legal databases, but the primary emphasis of Q L is still Canadian legal materials.<sup>22</sup>

Most of the primary sources of Canadian law are available on the Q L system.<sup>23</sup> These databases include the full-text of several Canadian reporters, including the *Ontario Reports* and the *Canadian Patent Reporter*, and headnotes for other Canadian law reporters, to which full-text opinions are being added. The largest reporter database is the *Dominion Report Service*. This database covers all opinions published since September, 1955, but only the headnotes of these opinions are currently online.

Canadian statutes are also available on the Q L service, including all federal and most provincial statutes. The only Canadian statutes not available are those of the Maritime provinces other than New Brunswick. The Q L service, however, has experienced some problems with keeping provincial statutes current. Additionally, Q L includes current administrative regulations for Ontario and British Columbia and decision summaries from the *Canadian Regulatory Reporter*, from 1980 to date.

Beyond legal databases, Q L has databases covering the following categories: business (1), energy (9), environment (6), French (8) (these are French language databases corresponding to some of the other Q L databases), news (2), and social science (2). Many of these databases do not include the full text, but they still serve as useful starting points for

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21. The early history of the Q L service is given by H. LAWFORD, *QUIC/LAW: Project of Queen's University*, in *AUTOMATED LAW RESEARCH* 67 (R. May ed. 1973).

22. Q L database descriptions and access charges were compiled from brochures and related information supplied by the Q L service. For additional information contact Q L Systems, Ltd., 112 Kent St., Suite 1018, Tower B, Ottawa, Ontario K1P 5P2 Canada (Phone 613-238-3499).

23. The obvious legal materials missing from the Q L system are those of Carswell Legal Publications Ltd., a major Canadian law publisher. Carswell is reportedly testing its own database service and plans to introduce a service to complement the Q L system soon. See D.T. MACELLVIN, *LEGAL RESEARCH HANDBOOK* 162-63 (2d ed. 1986).

researching problems dealing with Canada. The news databases consist of two wire services: Canadian News Wire and Canadian Press Newtext; both are full-text.

VU/TEXT serves as an agent for U.S. subscribers to the Q L service. As with VU/TEXT, the charges for accessing the Q L databases are straightforward. No monthly subscription fee is required, and hourly access rates are \$90.00. Those willing to guarantee \$60.00 per month usage are only charged \$75.00 per hour. Canadian law schools are currently given a special \$30.00 per hour rate. Perhaps, upon request, this rate would also be extended to U.S. law schools.

U.S. law libraries that maintain expensive subscriptions to Canadian legal materials for occasional access to Canadian legal authorities should reconsider their acquisitions policy in light of the availability of VU/TEXT. For many law libraries, it would make good sense to cancel Canadian legal subscriptions and turn to the Q L system when the need for Canadian legal research arises.

#### IV. ABA/NET

ABA/Net is not an online service. It is associated with the larger ITT Dialcom online service and offers its subscribers access to all other ITT Dialcom databases. Additionally, it serves as a gateway to the Dow Jones online service and, thereby, offers subscribers access to the Dow Jones databases as well.

ABA/Net is offered through the American Bar Association and is operated under license by ITT Dialcom. Although it offers subscribers the capability of accessing a number of electronic databases, this is only one of ABA/Net's features. It is also meant to serve its subscribers as an electronic mail system, bulletin board, conferencing system, and document delivery system. This discussion will focus on the databases accessible through ABA/Net.<sup>24</sup>

Of the twenty to thirty databases available to ABA/Net subscribers on the ITT Dialcom system, several are produced by the ABA, such as *Ambar*, which provides information on ABA publications, programs, and activities, and many more produced by other organizations, such as the ubiquitous *ABI Inform* and BAN's *Advanceline* databases, daily newsletters covering labor, tax, and securities. Few of these are exclusive: even *Ambar* is available on both LEXIS and WESTLAW. The ABA, however, has plans to add several databases that may not be

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24. The description of databases available through ABA/Net is based on brochures and materials supplied by ABA/Net. For further information contact ABA/Net, 1109 Spring St., Silver Spring, MD 20910 (Phone 800-435-7342).

available on other services. Included in the latter category are *Automated Legal Forms*, formerly available from Callaghan and produced by LAWMUG<sup>25</sup> in Chicago, and the electronic version of ABA publications. Additionally, some of the BNA databases, which compete with existing LEXIS or WESTLAW databases, are available only on ITT Dialcom. For instance, the BNA-produced *Private Letter Rulings* from the Internal Revenue Service and BNA's *Daily Tax Advance* and *Daily SEC Advance* are available exclusively on ITT Dialcom.

ABA/Net subscribers also have gateway access to the twenty-five or more databases available through the Dow Jones online service. These databases are focused primarily on business and financial news sources, such as the non-exclusive *Standard and Poor's Online*, descriptive and financial data on some 4,600 companies, plus daily-updated analyses of stocks and other financial and investment news; *Corporate Earnings Estimator*, projected earnings for 3,000 corporations; and *Disclosure II*. Exclusive databases include *Wall Street Journal Highlights Online*, summaries and full-text of articles from the *Wall Street Journal*; *Weekly Economic Update*, weekly summaries of economic data; and the *News/Retrieval* databases covering sports, weather, and world news. Two other exclusive databases, produced by International Medical Reference, Inc., are focused on medical information: *Medical and Drug Reference*, an online version of *The Essential Guide to Prescription Drugs*, and *Medx*, three files of current medical and pharmaceutical information.

Ambitious plans are underway to expand ABA/Net users' access to additional databases through more gateway agreements with other online services. ABA/Net is also considering offering its users several unique online capabilities, including legal research requests online, whereby users could enter legal research requests online and obtain the results for a fee, and an online legal ethics service, whereby users could enter legal ethics questions and obtain the results online.

ABA/Net charges a one-time \$50.00 fee to new users plus a \$14.00 per hour connect charge, \$10.00 to \$12.00 per hour during non-business hours, with a minimum usage charge of \$25.00 per month. Users are also assessed a surcharge for accessing commercial databases through ABA/Net. Currently, ABA/Net is considering reduced rates for law school users and is permitting at least one consortium of law school

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25. LAWMUG, the Lawyers Microcomputer Users Group, is a three-year-old Chicago-based organization dedicated to teaching lawyers about the use of computers in practicing law. For more information contact Paul Bernstein, President, LAWMUG, P.O. Box 11191, Chicago, IL 60611-0191 (Phone 312-951-8264).

users, the Mid-America Law School Library Consortium, to share the \$25.00 per month minimum usage fee.

## V. THE GENERAL ELECTRIC INFORMATION SERVICES

The General Electric Information Service ("G.E.I.S.") includes two major legal databases: the Commerce Clearing House-produced ELSS legislative-tracking system and Congressional Quarterly's *Washington Alert*; however, G.E.I.S. is an atypical online system, and subscribers to one database available through G.E.I.S. do not gain access to other G.E.I.S. databases automatically.<sup>26</sup> As a matter of fact, different databases available through G.E.I.S. may utilize entirely different searchware and incompatible computer hardware. Hence, subscribers to either ELSS or *Washington Alert* do not have access to other G.E.I.S. databases and may even be unaware of the others' existence.

### A. ELSS (*Electronic Legislative Search System*)

ELSS is a legislative bill-tracking system produced by Commerce Clearing House ("CCH"), a well-established publisher of legislative monitoring materials. The online ELSS system covers all U.S. Congressional bills and sixty-five to seventy-five percent of the bills for all fifty state legislatures.<sup>27</sup> At the state level, ELSS includes all bills pertaining to tax, business, and education; other bills may be excluded. This database is updated daily, relying on the information gathering network CCH has developed to support its other legal publications. Information for each bill includes jurisdiction, bill number, title, sponsor(s), abstract, committee assignments and actions, floor actions, executive actions, enactments and/or defeats, and public law numbers. The user can retrieve current status or full history information by entering a combination of the following: subject codes, jurisdictions (i.e., federal and/or particular states), sponsor(s), and dates.

ELSS competes with a number of commercial and government-produced online legislative monitoring systems, but most other systems lack ELSS's breadth of coverage.<sup>28</sup> For example, *Legislate*, produced by the *Washington Post*, is a popular system for tracking federal legisla-

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26. This description of G.E.I.S. is based on a telephone interview with Joseph Bublik, Sales Manager, General Electric Information Services (Sept. 24, 1985).

27. The ELSS database and access charge descriptions are based on brochures and other materials supplied by Commerce Clearing House. For further information contact Commerce Clearing House, Inc., 4025 W. Peterson Ave., Chicago, IL 60646 (Phone 312-346-9134).

28. For a listing of most of the currently available automated legislative monitoring systems see Fox, *Survey of Online Legal and Law-Related Databases*, 5 LEGAL REFER-

tion, but as yet it does not cover state legislation. This lack of state coverage also holds true for Congressional Quarterly's *Washington Alert* service<sup>29</sup> and the recently introduced Bill Text Tracking System, from Washington Online.<sup>30</sup> One other system offering subscribers coverage of both federal and state legislation is the Sacramento, California-based PAI Legislative Services; however, the base fee for fifty-state coverage exceeds \$20,000.00 for this system.<sup>31</sup> Lastly, those interested in tracking legislation in a particular state may be able to gain online access to that state legislature's own system at a cost substantially lower than commercial systems.<sup>32</sup>

Costs for searching ELSS vary from \$190.00 per hour at a 300 baud rate to \$237.00 per hour at a 1200 baud rate. Overnight, or batched, searches range from \$80.00 per hour at 300 baud to \$100.00 at 1200 baud. Additionally, subscribers are required to pay \$3,000.00 in advance; this fee includes \$2,500.00 in advance usage charges plus a \$500.00 annual subscription. Law schools are exempt from these advance charges.

#### B. *Washington Alert*

NEXIS users may be familiar already with the online version of *CQ Weekly Report*, the well-established political journal published by Congressional Quarterly. The *CQ Weekly Report* is also available as one of eight separate files on Congressional Quarterly's *Washington Alert* service.<sup>33</sup> *Washington Alert* is a group of interrelated databases produced by Congressional Quarterly and, as its name implies, focuses on the activities of Congress. It can be used to track federal legislation, ascertain voting records of Congressmen, find daily Congressional schedules, get

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ENCE SERVICES Q., Winter 1985-86, at 87, 89-94. Most of these systems are discussed further in Kauffman, *supra* note 3, at 234 *passim*.

29. See *infra* notes 33-36 and accompanying text.

30. Washington Online's Bill Text Tracking Service is the most recent entry into the pool of automated legislative tracking systems covering Congress. For additional information contact Washington Online, 507 Eighth St., S.E., Washington, DC 20003 (Phone 202-543-9191).

31. For more information contact Public Affairs Information, Inc., 1024 Tenth St., Suite 300, Sacramento, CA 95814 (Phone 916-444-0676).

32. A useful guide to state systems, indicating which states allow access to the legislature's bill status computer, is the STATE LEGISLATIVE SOURCEBOOK 1986, published by Government Research Service, 701 Jackson, P.O. Box 2041, Topeka, KS 66601 (Phone 913-232-7720).

33. This description of Washington Alert is based on brochures and other materials supplied by the Congressional Quarterly. For additional information contact Congressional Quarterly, Inc., 1414 22nd St., N.W., Washington, DC 20037 (Phone 202-887-8579).

notice of newly released Congressional documents, and research related information.

*Washington Alert* is composed of eight separate, interrelated databases: (1) The daily Congressional schedule database includes the times and locations for Congressional committee meetings and hearings and the names of witnesses scheduled to testify. (2) The *Congressional Record* database is also updated daily and contains abstracts from the previous day's Congressional proceedings as printed in the Record. These abstracts are free-text searchable and archived from the second session of the previous Congress. (3) The bill status system on *Washington Alert* covers all bills introduced during the current Congress and enables users both to search and track bills. Bills can be searched using any number of identifiers including sponsor(s) and free text searches of brief and official bill titles. Brief or full reports on all Congressional action to date can be retrieved for any bill in the database. (4) The full-text of *CQ Weekly Report* is available on *Washington Alert* up to one week before its availability in print, while it does not appear in NEXIS until one week after its publication date. On the other hand, NEXIS includes a longer run of this publication, covering the *Weekly Report* and its predecessor, *CQ Almanac*, from 1975; *Washington Alert*'s coverage only dates from October 1983. (5) Notices of newly released Congressional documents appear in *Washington Alert*'s documents database. Documents covered include often limited supplies of Committee prints and hearings.<sup>34</sup> (6) All recorded roll call votes appear in the votes database. Information available includes a one paragraph description of what was at issue in each vote; this description can be searched in free text. (7) A profiles database contains biographical and related information for each legislator. The fields available under each entry include: (a) a short biography, (b) a lengthier "profile" discussing legislative style, (c) the legislator's style in his/her state or district, (d) campaign finance history, (e) election returns, (f) committee assignments, and (g) CQ voting studies. Finally, (8) the news database includes three segments: (a) *Daily Update* lists current news highlights, with two to three paragraphs of information accompanying each headline; (b) the weekly *Congressional Insights* presents more predictive, studied analyses of Congressional news; and (c) *Campaign Practices Reports* is updated biweekly.

While competing online services offer databases similar to the separate components of *Washington Alert*, none has the entire array of Con-

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34. Some researchers rely on this notification feature to obtain federal documents quickly while they are still available.



gressional information unique to this service. For instance, in addition to the *CQ Weekly Report* on NEXIS at least two of *Washington Alert's* other seven components correspond to databases available elsewhere. Abstracts of the *Congressional Record* have been available for some time online, from DIALOG and other online services in a version produced by Capitol Services.<sup>35</sup> And, as discussed earlier, several competing online services offer federal bill status systems.<sup>36</sup> The value of *Washington Alert* is in pulling these interrelated databases together.

As with ELSS, hourly access rates for *Washington Alert* vary according to communication speed. At 300 baud, the rate is \$95.00 per hour, while the rate is \$195.00 per hour at 1200 baud. Additionally, users must pay \$18.00 per month as an account maintenance fee and a one-time sign-up fee of \$180.00. The latter includes prepayment of \$95.00 connect time and covers the charges for training and a users' manual.

## VI. VERALEX

VERALEX is a new online service offered by Lawyers Co-operative Publishing Company through a cooperative agreement with Mead Data Central.<sup>37</sup> Databases available through this service include the full-text of the *American Law Reports*, cases and annotations, 3d, 4th and Federal, plus the *Auto-Cite* case validation information. Although *Auto-Cite* has been available to LEXIS subscribers for years and the *American Law Reports* have been added more recently to the LEXIS array of databases, these databases are now available directly to VERALEX subscribers at a commercial rate substantially below that charged by LEXIS.

Although VERALEX is a full-text service, users must have a citation in order to retrieve a full-text document from the system. Unlike WESTLAW or LEXIS, it is not possible to search for documents on VERALEX containing a particular word or combination of words. Additional relevant citations to VERALEX documents may be obtained, however, by entering one relevant citation into the *Autocite* system. This system, as LEXIS users know, will list citations to all cases

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35. Capitol Services produces two databases useful to legal researchers: Congressional Record Abstract (from 1981 to date) and Federal Register Abstracts (from 1977 to date). Both databases are available on DIALOG. See *infra* notes 45-47 and accompanying text. For additional information contact Capitol Services, Inc., Washington, DC 20002 (Phone 202-546-5600).

36. See Fox, *supra* note 28, at 89.

37. This description of VERALEX is based on materials supplied by Lawyers' Co-operative Publishing. For additional information contact Lawyers' Co-operative Publishing Co., 50 Broad St., Rochester, NY 14694 (Phone 800-462-6807). See also *Lawyers' Co-op Swears In Veralex Online Service*, Information Today, Feb. 1986, at 1, col. 4.

affecting the validity of the case citation entered, as well as citations to relevant ALR annotations.

The primary advantage of VERALEX, as compared to LEXIS or WESTLAW, is its cost. VERALEX subscribers pay a one-time subscription fee of \$295.00; this fee includes a start-up diskette, a training session, user's manual, and ID number. Additionally, users are assessed \$60.00 per month for "database update," plus a \$42.00 per hour access rate and \$.60 to \$1.50 per inquiry. These rates make retrieval of cases on VERALEX substantially less expensive than retrieval of the same information on either LEXIS or WESTLAW, so long as the user already has the correct citation.

## VII. NEWSNET

NEWSNET is an online service, introduced in 1982, whose databases consist of the full-text of over three hundred business-oriented newsletters covering over thirty-three industries and professions.<sup>38</sup> This is the largest newsletter database available from any single online service, including NEXIS.<sup>39</sup> Although several of these newsletters report legal news or deal with some aspects of law practice, the primary use of this service to legal researchers is more likely to be current fact research. Those newsletters aimed at lawyers include *Lawyers' Micro Users Group Newsletter*, also available on ABA/Net, *Industrial Health and Hazards Update*, *USA Today Decisionline/Law*, and *CCH Taxday*. Other law-related newsletter titles range from *Land Use Planning Report* to *Tax Shelter Insider*. Again, since newsletters are frequently expensive to acquire and difficult to locate, the corralling of so many newsletters into one service makes it likely that NEWSNET will be useful to most legal researchers at some time.

NEWSNET's simple commands and online help screens enable most users to access the system without training. Newsletter headlines can be scanned, read in full-text, or searched for key words. Key words can be combined in phrases or paired for noncontiguous occurrences. Searches for newsletters can also be limited by dates. A special feature, called "Newsflash," enables users to request daily update searches of particular newsletter files; all newly added articles meeting the search

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38. For additional information concerning NEWSNET's databases and access charges contact NEWSNET, Inc., 945 Haverford Rd., Bryn Mawr, PA 19010 (Phone 800-345-1301).

39. The some 250 databases on NEXIS include 53 newsletters. See *supra* note 8 and accompanying text.

criteria specified will then be retained for automatic viewing the next time the user enters his or her ID.

NEWSNET charges subscribers a flat \$15.00 per month plus an hourly access fee that varies according to baud rate, time of day, and databases accessed. The standard access rate is \$48.00 per hour at a 1200 baud rate, for eighty percent of the newsletters when accessed during business hours, 8:00 a.m. to 8:00 p.m. Eastern time. At 300 baud, the rate is only \$24.00 per hour, while at 2400 baud, the rate is \$96.00 per hour. Evening access rates are reduced by twenty percent. A surcharge of \$.37 per article is assessed for the Newsflash service. Additionally, telecommunications charges are not included in the hourly rate.

### VIII. WILSONLINE

Wilsonline provides online access to the various periodical and book indexes published by the well-established H.W. Wilson Company, including the *Index to Legal Periodicals* ("ILP").<sup>40</sup> Introduced in early 1985, WILSONLINE currently covers twelve periodical databases, each corresponding to a well-known printed index, and four book databases, providing users with online access to the indexing entries for over 500,000 articles annually culled from some 3,500 periodicals. Although competing indexes, such as the *Legal Resources Index*, may be available through other online services, most Wilson indexes are available online exclusively through WILSONLINE.<sup>41</sup>

The WILSONLINE database likely to be of most interest to legal researchers is the *Index to Legal Periodicals*. Like its printed counterpart, this index covers 476 legal periodicals, yearbooks, and institutes published in the United States, Canada, and the British Commonwealth. All articles greater than five pages and case notes and bibliographies longer than two pages are indexed. Unlike its printed counterpart, the online version of *ILP* only indexes periodicals published subsequent to August, 1981; however, it is updated twice weekly, for an average addition of 1,200 records monthly.

WILSONLINE users are given more access point options for retrieval-

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40. The WILSONLINE databases and access charges are described in THE H.W. WILSON COMPANY 1987 CATALOG 14-21 (1986). For additional information contact H.W. Wilson Co., 950 University Avenue, Bronx, NY 10452 (Phone 800-367-6770 or, in NY, 800-462-6060).

41. WILSONLINE recently announced an exception to this policy and now makes *Index to Legal Periodicals* available on WESTLAW. For additional information contact WESTLAW at 800-328-0109. Further, WILSONLINE is available pursuant to a gateway agreement through OCLC's ("Online Computer Library Center") UNISON service.

ing articles than users of the printed Wilson indexes. For example, the printed *Index to Legal Periodicals* is basically a subject and author index to legal periodical literature, with a separate table of cases, table of statutes, and book review index. WILSONLINE allows users to retrieve indexed articles by any of the above access points as well as by key words that may appear in an article's title. Also, searches on WILSONLINE may be further restricted by date, periodical title, and language.

Other WILSONLINE databases likely to be of interest to legal researchers include the *Reader's Guide to Periodical Literature*, *Social Sciences Index*, and *Applied Science & Technology Index*. Some law libraries currently subscribe to the printed version of one or more of these indexes and may find it cost effective to cancel their print subscriptions and rely on WILSONLINE for occasional use.

Access rates for WILSONLINE range from \$32.00 to \$65.00 per hour depending on the subscription plan chosen, the database searched, and whether the user subscribes to the printed index. Telecommunications charges, through Tymnet or Telenet, are an additional \$8.00 per hour. An optional training session and user guide costs \$75.00.

## IX. PHINET

PHINet is Prentice-Hall's online federal tax service, which closely replicates its well-established looseleaf tax service.<sup>42</sup> The following fully searchable tax publications are available in full-text through PHINet: *P-H Federal Taxes*; *American Federal Tax Reports*, 1954-present; *Tax Court Reported Decisions*, 1954-present; *Tax Court Memo Decisions*, 1954-present; *Private Letter Rulings*, 1977-present; *Internal Memoranda of the IRS*, 1981-present; *Current Bulletins*, 1954-present; the Prentice-Hall *Tax Citator—1954 Code*; *Publications of the IRS*; the *Internal Revenue Manual*; and the *All States Tax Guide*. Additionally, *Tax Notes Today* ("TNT"), a daily full-text electronic journal of current tax news produced by Tax Analysts, has been added to PHINet, and there are several non-searchable news files in PHINet, including: *Daily Update*, *Week in Review*, and *Expert's Briefing*.

PHINet utilizes the popular IBM STAIRS searchware, which provides extended flexibility in searching full-text databases.<sup>43</sup> Search

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42. For additional information about the PHINet databases and access charges contact Prentice-Hall Information Network, 292 Madison Avenue, 4th Floor, New York, NY 10017 (Phone 212-685-2121).

43. STAIRS, an acronym for STorage and Information Retrieval System, is used in many state legislative information systems. See Kauffman, *supra* note 3, at 237.

statements, or queries, can be comprised of keywords, code sections, case names, or types of documents, and can be restricted by dates. Search terms can be connected by Boolean logic or proximity connectors, as with both LEXIS and WESTLAW.

Although much of the tax information available through PHINet is available also in the specialized tax libraries of both LEXIS and WESTLAW, and is available at a lower cost than either service, PHINet offers some unique Prentice-Hall tax publications online, like the *All States Tax Guide*. In addition, researchers already familiar with Prentice-Hall's looseleaf tax services may feel more comfortable using them online through PHINet.

The initial one-time subscription fee for PHINet varies depending on whether one is a subscriber to *P-H Federal Taxes* in looseleaf format. Looseleaf subscribers are charged \$475.00, while others are charged \$950.00. This initial fee covers a four-hour training session and one hour of usage and entitles the user to a *User's Guide* and one user I.D. and password. Additional I.D.'s and passwords are available at \$75.00 each. Access rates are then billed at \$60.00 per hour for news data and \$80.00 per hour for all other databases. Communication can be made through Tymnet.

## X. DIALOG

DIALOG is the largest and possibly most important single online service in the world, covering well over 250 databases.<sup>44</sup> This service was inaugurated in the late 1960's by the Lockheed Corporation to support the aerospace program and was formerly known as Lockheed Retrieval Services. Although DIALOG databases continue to emphasize scientific and technical information and are primarily bibliographic, as opposed to full-text, this service has expanded its coverage to offer more databases per subject area than any of its competitors. Many of these databases are useful to legal researchers.

The scope of this article does not permit a full description of all of the DIALOG databases likely to be useful to legal researchers. Instead, readers are encouraged to consult a current issue of DIALOG's *Database Catalog*, which contains a subject-arranged table of contents.<sup>45</sup> Over fifteen databases are listed here under "Law and Govern-

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44. See Saffady, *supra* note 5, at 9.

45. See DIALOG INFORMATION SERVICES, INC., DATABASE CATALOG (1986). For additional information about the DIALOG databases and access charges contact DIALOG Information Service, Inc., Marketing Department, 3460 Hillview Ave., Palo Alto, CA 94304 (Phone 800-334-2564).

ment," including: *CIS*,<sup>46</sup> 1970-present, a practically indispensable index for locating federal legislative histories; *Congressional Record Abstracts*, 1981-present, a useful database for locating congressional debates since the full-text of the *Congressional Record* is not available online; BNA's *Laborlaw*, 1938-present, summaries of labor law decisions from six different reporter series; *Patlaw*, 1967-present, summaries of intellectual property decisions from U.S. courts and administrative agencies; and the *Legal Resource Index*, 1980-present, a legal periodical index covering approximately 750 titles. The DIALOG databases may also be useful to legal researchers for locating biographical information, *Marquis Who's Who*; corporate information, e.g., *Moody's Corporate Profiles*; medical information, e.g., *Medline*; and teaching current events, e.g., *Facts on File*. Although many of the DIALOG databases are not available exclusively through DIALOG, for example, *Legal Resources Index* was added recently to NEXIS, the depth and breadth of databases available on DIALOG is unsurpassed by any other single online service.

Legal researchers already familiar with the user-friendly LEXIS or WESTLAW systems may be disappointed in the comparatively archaic and cumbersome searchware used by DIALOG. It is certainly advisable to attend one of DIALOG's all day training sessions before searching DIALOG databases, and infrequent searchers may find it worthwhile to purchase a "front-end" or "gateway" software package, if searching on a microcomputer, to assist in formulating searches.<sup>47</sup> Another option is to subscribe to DIALOG's *Knowledge Index*, which provides a subgroup of the DIALOG databases and utilizes more user-friendly searchware; however, many of the databases described above are not among the less than thirty databases available through *Knowledge Index*.

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46. CIS stands for Congressional Information Service, the database producer. Practically all relevant federal legislative history materials, save debates from the Congressional Record, can be unearthed using the CIS indexes.

47. Gateway software is not to be confused with gateway agreements, described *infra* at note 49 and accompanying text. Gateway software (sometimes called "front-end" packages) is the term applied to specialized communications software, which not only makes a microcomputer emulate a conventional terminal but also aids users who are unfamiliar with the command structure of a particular online service. Gateway software may support any combination of the following: offline preparation of search strategy, automatic dialing and sign-on, database selection, automatic transmission of search query, recording of results, and automatic termination of search session. Saffady, *supra* note 5, at 42-46. Gateway programs are available for single online services, like Searchware for DIALOG, and multiple services, like Prosearch for both DIALOG and BRS. See Tenopir, *Software for Online Searching*, 110 LIBR. J., Oct. 15, 1985, at 52-53; see also Saffady, *Communications Software Packages for the IBM Personal Computer and Compatibles*, 21 LIBR. TECH. REP. 355 (1985).

DIALOG does not require an initial fee to obtain a password, although a fee is charged for training and a user reference manual. The rate for searching the DIALOG databases varies from about \$35.00 per hour for government-produced databases, such as the GPO *Monthly Catalog*, to \$120.00 per hour for BNA's *Laborlaw* and *Patlaw* databases, for instance. Telecommunications charges are additional. For the few DIALOG databases available through *Knowledge Index*, the charges may be much lower. This DIALOG-related service charges a flat rate of \$24.00 per hour, including telecommunications costs, for searching any of its twenty-nine databases. Thus, *Legal Resources Index* is less than half the \$90.00 per hour DIALOG rate if searched on *Knowledge Index*.

## XI. CONCLUSION

Although only ten of the some 400-plus online services are described in this article, these ten services provide access to most of the non-LEXIS/WESTLAW databases likely to be useful to legal researchers. This is so for several reasons. First, some of the services described here provide access to a disproportionately large share of the databases. DIALOG alone provides access to nearly ten percent of the 3,000-plus commercially available databases, and NEXIS approaches that number. Second, law-related databases available through other services may be either non-exclusive and, therefore, also available through one of the described services or, even if exclusive, have similar information on competing databases available through one of these services. Databases such as *ABI Inform* are illustrative of the former, while databases in the securities/finance and energy/resources areas, where much duplication exists, are illustrative of the latter.<sup>48</sup>

Despite this claim of comprehensiveness, some online information useful to legal researchers may not be available through the few services described here, and other services will be needed as intermediaries to access those databases.

Two trends in the online industry are working to lessen the need for user interaction with a large number of online services: one is the growing use of gateway agreements between online services and the other is the expanding use of optical laser disk technology by database producers.

As described in this article, ABA/Net uses gateway agreements to

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48. According to Dr. Carlos Cuadra, "two of the most heavily covered topics in the online database industry [are] securities/finance and energy resources." *Cuadra Reports Record Database Dropout Rate*, Information Today, Sept. 1986, at 1, col. 1.

make databases mounted on other online services available to its subscribers and has ambitious plans to expand the use of gateway access agreements to more online services. WESTLAW recently introduced gateway access to the Dow Jones online service and has announced plans to add gateway access to DIALOG. This trend is being followed by other online services.

Essentially, a gateway agreement allows the user of one online service, for example WESTLAW, to access databases available on another service, for example Dow Jones, without requiring the user to enter into a separate agreement with the non-primary service. Computer messages are merely forwarded from the primary online service to the secondary service. Although gateway agreements do not relieve users from the necessity of mastering the search protocol of seldom-used services,<sup>49</sup> they do permit users to search otherwise unavailable databases, often without having to deal with separate user agreements and billing.

The use of optical disk technology by database producers is also lessening the need for user interaction with a multitude of online services, by making databases directly available to users. Optical disks rely on lasers to read and write information, making it possible to store large amounts of data on small surfaces.<sup>50</sup> These information-laden disks can be distributed to users and be read on players connected to microcomputers, replacing remote databases housed on the large main-frame computers of online services. Already a number of database producers have introduced optical disk products. For example, *Legal Resource Index*, available on both NEXIS and DIALOG, has been available on optical disk since the summer of 1985. *Disclosure II*, available on DIALOG, VU/TEXT, Dow Jones, and other online services, is also available on optical disk. *Index to Legal Periodicals*, available on WILSONLINE, is scheduled to be available on optical disk in January, 1987. Finally, West Publishing Company has announced a joint venture with Wang Laboratories to produce an optical disk database product by mid-1987. Other online database producers are following this trend.

Optical disks include both analog optical disks, known as videodisks,

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49. Gateway (or "front-end") software, however, may make searching of unfamiliar databases easier for the end user. See *supra* note 47.

50. For a general introduction to optical disk technology see Irving, *The Use of Optical Disk in Law Libraries*, 6 LEGAL REFERENCE SERVICES Q. 33-45 (1986). For a more detailed description of CD-ROM technology see Murphy, *CD-ROM and Libraries*, 3 LIBR. HI TECH 21-28 (1985), where the author focuses on Library Corporation's CD-ROM product—*Bibliofile*—and the application of CD-ROM standards; see also Helliwell, *Optical Overview: What's Coming in CD-ROMs and WORMS*, 5 PC MAG., Oct. 14, 1986, at 149-64.



and digital optical disks, including CD-ROM, for compact disk-read only memory. Both technologies employ laser beams to read and write information and both have been used by the information industry to produce computer-readable databases; videodisks are also suitable for storing non-print material of color and movement, while digital disks are more accurate and suitable for printed pages. Consumers were introduced to videodisks several years ago with the widespread distribution of movies for home entertainment, supplied on twelve-inch platters resembling phonograph records. Information Access Corporation uses this technology to produce *Legaltrac*, the Legal Resources Index on a laser disk. Consumers were more recently introduced to CD-ROM digital recordings for high quality reproduction of audio works, and CD-ROMs are now the most popular optical disk format for reproducing computer readable databases. *Disclosure II* and WILSONLINE, for example, are both on CD-ROM.

The use of optical disk technology in the online industry is projected to blossom over the next few years, lessening the need for researchers to access remote databases through online services. Nevertheless, remote databases will continue to offer researchers the most current information available on a single topic; thus, it may be necessary to supplement local searches of databases mounted on optical disks with online searches of remote databases. The expanded use of gateway agreements between services will increase user access to a multitude of databases, but users will still need to master the search protocol of each service used and have some knowledge of the database information available on different services. The general overview of online services presented here should be a good starting point for legal researchers ready to expand their online searching beyond LEXIS and WESTLAW.

APPENDIX A  
SELECTIVE DIRECTORY OF ONLINE SERVICES

ABA/Net (see ITT Dialcom)

Auto-Cite (see Lawyers' Co-operative Publishing Co.)

Bill Text Tracking Service (see Washington Online)

BRS (Bibliographic Retrieval Service)

1200 Route 7

Latham, NY 12110

(telephone: 518/783-1161)

Commerce Clearing House, Inc.

4125 West Peterson Avenue

Chicago, IL 60646

(telephone: 312/538-8500)

Congressional Quarterly, Inc.

1414 22nd St., N.W.

Washington, DC 20037

(telephone: 202/887-8579)

Data Times

818 Northwest 63rd

Oklahoma City, OH 73116

(telephone: 405/843-7323)

DIALOG Information Services, Inc.

3460 Hillview Avenue

Palo Alto, CA 94304

(telephone: 415/858-3785)

Dow Jones and Company, Inc.

P.O. Box 300

Princeton, NJ 08540

(telephone: 609/452-2000)

ELSS (see Commerce Clearing House, Inc.)

G.E.I.S. (General Electric Information Services Co.)

401 North Washington St.

Rockville, MD 20850

(telephone: 301/340-4000)

H.W. Wilson  
950 University Avenue  
Bronx, NY 10452  
(telephone: 212/588-8998)

ITT Dialcom  
1109 Spring St., Suite 410  
Silver Spring, MD 20910  
(telephone: 301/588-1572)

Knowledge Index (see DIALOG)

Lawyers' Co-operative Publishing Co.  
50 Broad Street  
Rochester, NY 14694

Legi-Slate, Inc.  
111 Massachusetts Ave., N.W.  
Washington, DC 20001  
(telephone: 202/898-2300)

Legi-Tech Corp.  
The Senator Hotel  
1121 L Street  
Suite 207  
Sacramento, CA 95814  
(telephone: 916/447-1886)

LEXIS (see Mead Data Central)

Mead Data Central  
P.O. Box 933  
9393 Springboro Pike  
Dayton, OH 45401  
(telephone: 513/859-1611)

NewsNet, Inc.  
945 Haverford Road  
Bryn Mawr, PA 19010  
(telephone: 215/527-8030)

NEXIS (see Mead Data Central)

PHINet (see Prentice-Hall Information Network)

Prentice-Hall Information Network  
292 Madison Ave., 4th Floor  
New York, NY 10017  
(telephone: 212/685-2121)

Public Affairs Information, Inc.  
1024 Tenth Street  
Sacramento, CA 95814  
(telephone: 916/444-0676)

Q L Systems Limited (see also VU/TEXT)  
112 Kent St., Suite 1018, Tower B  
Ottawa, Ontario K1P 5P2  
Canada  
(telephone: 613/238-3499)

SDC Information Services (ORBIT)  
2500 Colorado Avenue  
Santa Monica, CA 90406  
(telephone: 213/453-6194)

Shepard's/McGraw-Hill, Inc.  
420 N. Cascade Avenue  
Colorado Springs, CO 80902  
(telephone: 303/475-7230)

VERALEX (see Lawyers' Co-operative Publishing Co.)

VU/TEXT Information Services, Inc.  
1211 Chestnut St.  
Philadelphia, PA 19107  
(telephone: 215/665-3300)

Washington Alert (see Congressional Quarterly, Inc.)

Washington Online  
507 Eighth St., S.E.  
Washington, DC 20003  
(telephone: 202/543-9191)

WESTLAW (see West Publishing Co.)

West Publishing Co.  
50 W. Kellogg Blvd.  
St. Paul, MN 55164  
(telephone: 612/228-2433)

WILSONLINE (see H.W. Wilson)

APPENDIX B  
SELECTIVE DIRECTORY OF ONLINE CONSORTIA

Group discount rates are available for searching some online services, like WILSONLINE, through the following consortia:

**Amigos Bibliographic Council, Inc.**

11200 N. Central Expressway

Suite 321

Dallas, TX 75243

(telephone: 214/750-6130)

**Bibliographic Center for Research (BCR)**

1777 S. Bellaire

Suite G-150

Denver, CO 80220

(telephone: 303/691-0550)

**Cooperative Library Agency for Systems & Services**

1415 Koll Circle

Suite 101

San Jose, CA 95112

(telephone: 408/289-1756)

**Federal Library and Information Network (FEDLINK)**

c/o Federal Library & Information Center Committee

Library of Congress

Washington, DC 20540

(telephone: 202/287-6454)

**Michigan Library Consortium (MLC)**

6810 S. Cedar St.

Suite 8

Lansing, MI 48910

(telephone: 517/694-4242)

**New England Library Information Network (NELINET)**

385 Elliot St.

Newton, MA 02164

(telephone: 617/969-0400)

**Palinet & Union Library Catalogue of Pennsylvania**  
**3401 Market St.**  
**Suite 262**  
**Philadelphia, PA 19104**  
**(telephone: 215/382-7031)**

